



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

08/18/2008

Jeffrey C. Hood
Meyertons, Hood, Kivlin, Kowert & Goetzel
P.O. Box 398
Austin, TX 78767

EXAMINER

COSIMANO, EDWARD R

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 08/18/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/801,103

03/15/2004

Neil S. Feiereisel

5150-85601

9259

TITLE OF INVENTION: AUTOMATIC DELAYS FOR ALIGNMENT OF SIGNALS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	11/18/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590

08/18/2008

Jeffrey C. Hood
Meyertons, Hood, Kivlin, Kowert & Goetzel
P.O. Box 398
Austin, TX 78767

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,103	03/15/2004	Neil S. Feiereisel	5150-85601	9259

TITLE OF INVENTION: AUTOMATIC DELAYS FOR ALIGNMENT OF SIGNALS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	11/18/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
COSIMANO, EDWARD R	2863	702-068000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/801,103

03/15/2004

Neil S. Feiereisel

5150-85601

9259

7590

08/18/2008

Jeffrey C. Hood
Meyertons, Hood, Kivlin, Kowert & Goetzel
P.O. Box 398
Austin, TX 78767

EXAMINER

COSIMANO, EDWARD R

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 08/18/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 951 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 951 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/801,103

Examiner

Edward R. Cosimano

Applicant(s)

FEIEREISEL ET AL.

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 27 May 2008.
2. ☒ The allowed claim(s) is/are 42,43,45-62 and 64-95.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

Art Unit: 2863

1. EXAMINER'S COMMENT

1.1 When preparing this Office action the examiner considers the instant application to include:

A) the Oath/Declaration filed on 12 July 2004 which is acceptable to the examiner;

B) the Abstract filed on 15 March 2004 which is acceptable to the examiner;

C) figures 1A, 1B, 2A, 2B, 3, 4, 5, 6, 7 & 8 of the set of drawings containing 9 sheets of 10 figures comprising figures 1A, 1B, 2A, 2B, 4, 5, 6, 7 & 8 as presented in the set of drawings filed on 15 March 2004 and figure 3 as presented in set of drawings filed on 27 May 2008 where figures 1A, 1B, 2A, 2B, 3, 4, 5, 6, 7 & 8 of the above set of drawings are acceptable to the examiner;

D) the written description as filed on 15 March 2004 and amended on 27 May 2008; and

E) the set of claims as filed on 27 May 2008.

1.2 Applicant's claim for the benefit of an earlier filing date pursuant to 35 U.S.C. 119(e) is acknowledged.

1.3 The examiner has approved the proposed changes to figure 3 of the drawings as filed on 27 May 2008.

2. REASONS FOR ALLOWANCE

2.1 The following is a statement of reasons for the indication of allowable subject matter:

A) the prior art, for example:

(1) Spencer (2,591,738) discloses a machine/process that provides the useful and beneficial function of permitting a signal waveform being displayed on a cathode-ray tube (CRT) to be consistently marked at the same point in each cycle/period of the displayed signal waveform by delaying a marking pulse from a reference time, for example, when the trace is started, by an amount that is equal to the point in time that the signal is to be marked and thereby permitting the consistent marking of the same point in time for each cycle of the signal being marked.

(2) Chiang (3,070,305) disclose a machine/process that provides the useful and beneficial function of generating a predetermined amount of a delay by using a plurality of delay elements that may be selectively added or subtracted from a signal line in order to provide a determined amount of delay to the signal.

(3) Cebula (3,866,126) discloses a machine/process that provides the useful and beneficial function of using a measured propagation delay in order to correct the operation of a machine/process in which the interval or delay between two events is determined in which a machine/process is used in order to determine the interval to be measured and the measured interval is corrected by a correction amount that is based on the propagation delays of the measuring circuit and which is subtracted from the measured interval.

(4) Suzuki (5,253,243) discloses a machine/process that provides the useful and beneficial function of starting the recording of a signal by using a variable amount of delay in order to generate a triggering pulse that is used in order to cause the machine/process to record the value of a signal.

(5) either Orihashi et al (5,406,198 or 5,438,259) discloses a machine/process that provides the useful and beneficial function of using a measured propagation delay in order to correct the operation of a machine/process in which the propagation delays for one or more of the components of the machine/process are determined and then used in order to correct the operation of the machine/process.

(6) Alger-Meunier et al (6,252,890) discloses a machine/process that provides the useful and beneficial function of using a measured propagation delay for one or more processing paths/components of a data/information processing machine/process in order to correct the operation of the data/information processing machine/process by using the measured the transit time differences or delays between various paths/components of the data/information processing machines/process in order to insert various predetermined delays into the data/information processing paths/components of the data/information processing

Art Unit: 2863

machine/process in order to time synchronize events in the data/information processing paths/components of the data/information processing machine/process.

(7) either Higashide (2002/0013672 or 6,556,934 or 2003/0125897) disclose a machine/process that provides the useful and beneficial function of using a measured delay in order to correct for differences in the interval or delay associated with different signal processing paths or circuits by measuring the interval or delay for each of the signal processing paths/circuits and then subtracting a stored signal processing path/circuit delay for a signal processing path/circuit from the measured delay or interval in order to compensate or correcting the measured interval or delay for the propagation delays of the corresponding signal processing path/circuit.

(8) either Camnitz et al (2003/0081667 or 6,865,496) disclose a machine/process that provides the useful and beneficial function of aligning a sampling strobe for each of a one or more pairs of parallel sampling circuits, where the first one of the sampling circuits in the pair of sampling circuit functions to sample the signal waveform and the second one of the sampling circuits in the pair of sampling circuit functions to sample a delayed version of the signal waveform, so that under the control of the sampling strobe each pair of sampling circuits will sample each of the associated signal waveform at the same point in time. Further in these machines/processes a variable delay is used in order to control the time at which each sampling strobe is triggered in order to permit the waveforms to be sampled at any point in the cycle/period of the signal waveform.

B) however, the prior art does not fairly teach or suggest in regard to claims 42 & 74 a process in claim 42 & 74 that provides the useful and beneficial function of delaying a marker signal with respect to a data/information signal from an arbitrary waveform generator by providing actions in claim 42 & 74 that perform at least the functions of:

(1) determining the relative delay, that caused by the travel path of the associated signal, between a data/information signal produced by an arbitrary

Art Unit: 2863

waveform generator and a “digital marker signal” that marks a predetermined position in the waveform generated by the arbitrary waveform generator; and

(2) using the determined relative delay to program a programmable marker delay circuit in order to delay the output of the digital marker signal relative to the output of the data/information signal from the arbitrary waveform generator so that the digital marker signal is output at the predetermined position relative to the data/information signal from the arbitrary waveform generator.

Claims 43 & 45-60, which depend from claim 42, and claims 75-85, which depend from claim 74, are allowable for the same reason.

C) however, the prior art does not fairly teach or suggest in regard to claim 61 & 86 a machine in claim 61 & 86 that provides the useful and beneficial function of delaying a marker signal with respect to a data/information signal from an arbitrary waveform generator by providing structures in claim 61 & 86 that perform at least the functions of:

(1) using an waveform generator to generate a data/information signal;

(2) generating a “digital marker signal” that functions to indicate a predetermined position with respect to the generated data/information signal;

(3) determining the relative delay, that caused by the travel path of the associated signal, between a data/information signal produced by an arbitrary waveform generator and a “digital marker signal” that marks a predetermined position in the waveform generated by the arbitrary waveform generator; and

(3) using the determined relative delay to program a programmable marker delay circuit in order to delay the output of the digital marker signal relative to the output of the data/information signal from the arbitrary waveform generator so that the digital marker signal is output at the predetermined position relative to the data/information signal from the arbitrary waveform generator.

Claims 62 & 64-73, which depend from claim 61, and claims 87-95, which depend from claim 86, are allowable for the same reason.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward R. Cosimano whose telephone number is 571-272-0571.

Art Unit: 2863

The examiner can normally be reached on 571-272-0571 from 7:30am to 4:00pm (Eastern Time).

3.1 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

3.2 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ERC
08/12/2008

**/Edward Cosimano/
Primary Examiner Unit 2863**